Repeater System and Method of Receiving a Modulated Input Signal and Transmitting a Modulated Output Signal

Abstract

A repeater system (10) for receiving a modulated input signal and for transmitting a modulated output signal comprises a clock oscillator (34) for providing a repeater system clock, a demodulator (12) for demodulating an input signal to obtain a demodulated signal and a modulator (14) for modulating the demodulated signal to obtain the modulated signal. The demodulator (12) comprises a first mixer (28), a first controllable oscillator (30) and a feedback circuit (32), the first controllable oscillator (30) being controlled by a first control value (CV_1) such that the frequency of the demodulated signal approaches a desired value. The modulator (14) comprises a second mixer (38) and a second controllable oscillator (36), the second controllable oscillator (36) being controlled by a second control value (CV_2) such that the modulated output signal has a predetermined output frequency. A controller (40) derives the second control value (CV_2) from the first control value (CV_1). Since each of the output frequency influencing components of the repeater system (10) is driven by the repeater system clock, and since the repeater system clock error is compensated for in the demodulator (12), the repeater system clock accuracy does not directly influence the accuracy of the output frequency. Thus, a moderately priced and moderately sized clock oscillator can be used for achieving an economical repeater system.